

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A brush abrasion detector of a vehicle generator comprising:

a brush that is located being slidably press-fitted to a slip ring to create a contact resistance, which is provided at an end portion of a field winding of a generator, and supplies an excitation current from a battery to said field winding;

a current detection circuit for detecting a current value flowing through said field winding of the generator via said brush, said current value corresponding to the contact resistance;

an output voltage detection circuit for detecting an output voltage value from the generator, said output voltage value corresponding to the contact resistance; and

a brush abrasion determination circuit for determining an abrasion state of said brush based on a said current value detected by said current detection circuit or ~~an~~ said output voltage value detected by said output voltage detection circuit.
2. (original): The brush abrasion detector of a vehicle generator according to claim 1, wherein current interruption control means for interrupting and controlling a current flowing

through said field winding depending on whether or not an output voltage from the generator is larger than a target value is provided; and

said brush abrasion determination circuit determines an abrasion state of said brush based on an average value of interrupted current detected by said current detection circuit.

3. (currently amended): A brush abrasion detector of a vehicle generator comprising: a brush that is located being slidably press-fitted to a slip ring, which is provided at an end portion of a field winding of a generator, and supplies an excitation current from a battery to said field winding; a revolution speed detection circuit for detecting the number of revolutions of said generator at a time when the generator is generating power; and a brush abrasion determination circuit determining an abrasion state of said brush based on the number of revolutions detected by said revolution speed detection circuit.

4. (original): The brush abrasion detector of a vehicle generator according to claim 1, wherein a material having a large contact resistance is implanted in said brush at a portion of the limit of abrasion.

5. (previously presented): The brush abrasion detector of a vehicle generator according to claim 2, wherein a material having a large contact resistance is implanted in said brush at an abrasion limit portion.

6. (original): The brush abrasion detector of a vehicle generator according to claim 3, wherein a material having a large contact resistance is implanted in said brush at a portion of the limit of abrasion.

7. (previously presented): The brush abrasion detector of a vehicle generator according to claim 1, wherein said brush comprises a brush abrasion limit portion which possesses such a configuration that a contact area with the slip ring becomes smaller.

8. (previously presented): The brush abrasion detector of a vehicle generator according to claim 2, wherein said brush comprises a brush abrasion limit portion which possesses such a configuration that a contact area with the slip ring becomes smaller.

9. (previously presented): The brush abrasion detector of a vehicle generator according to claim 3, wherein said brush comprises a brush abrasion limit portion which possesses such a configuration that a contact area with the slip ring becomes smaller.

10. (currently amended): A brush abrasion detector of a vehicle generator comprising:
- a brush that is located being slidably press-fitted to a slip ring, which is provided at an end portion of a field winding of a generator, and supplies an excitation current from a battery to said field winding;
 - a current detection circuit for detecting a current value flowing through said field winding of the generator via said brush;
 - an output voltage detection circuit for detecting an output voltage value from the generator;
 - a brush abrasion determination circuit for determining an abrasion state of said brush based on a said current value detected by said current detection circuit or ~~an~~ said output voltage value detected by said output voltage detection circuit,
 - wherein current interruption control means for interrupting and controlling a current flowing through said field winding depending on whether or not an output voltage from the generator is larger than a target value is provided, and
 - said brush abrasion determination circuit determines an abrasion state of said brush based on an average value of interrupted current detected by said current detection circuit.

11. (previously presented): The brush abrasion detector of a vehicle generator according to claim 10, wherein a material having a large contact resistance is implanted in said brush at an abrasion limit portion.

12. (previously presented): The brush abrasion detector of a vehicle generator according to claim 10, wherein said brush comprises a brush abrasion limit portion which possesses such a configuration that a contact area with the slip ring becomes smaller.

13. (new): The brush abrasion detector of a vehicle generator according to claim 3, wherein said excitation current is supplied to said field winding when the revolution speed detection circuit detects the number of revolutions.

14. (new): The brush abrasion detector of a vehicle generator according to claim 3, wherein determining the abrasion state includes detecting an increase in the number of revolutions which are needed to reach a threshold of an output voltage detection circuit.

15. (new): The brush abrasion detector of a vehicle generator according to claim 3, wherein the abrasion state of said brush is determined when switching from an initial excitation state to a control mode wherein the excitation current is interrupted and controlled.